DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/15/2009 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-9, 11-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schedele [US 4,185,163] in view of Tsutsui [US 6,337,614] and in further view of Kern et al [US 6,252,476].

Claim 1, Schedele discloses a magnet system for a relay [figures 5 and 6] comprising: a core [figure 5, center portion of multi-component yoke 25 through the coil] partially enclosed by a coil [24]; a yoke [left portion of multi-component yoke 25] having a first yoke leg attached to a first end of the core [left portion of multi-component yoke 25 perpendicular to the core] and a second yoke leg extending parallel to the core [left portion of multi-component yoke 25 above the coil 24], the second yoke leg having an armature mounting portion [figure 5] formed on an upper side of the second yoke leg remote from the coil; a pole [right portion of multi-component yoke 25] having a first pole leg [right portion of multi-component yoke 25 perpendicular to the core] connected to a second end of the core and a second pole leg extending parallel to the core [right portion of multi-component yoke 25 above the coil 24], the second pole leg having an upper surface substantially aligned with the armature mounting portion such that when an armature [26] is mounted on the armature mounting portion, a working air gap is formed between a coil-side armature face and the upper surface of the second pole leg [figure 5]; a fixed contact carrier [29] with a fixed contact [29].

Schedele shows a contact carrier [29] secured by insulating blocks [30 and 31] fails to teach exactly how the fixed contact carrier is secured to the insulating blocks.

Tsutsui discloses a magnet system for a relay [figure 3] wherein the contact carrier [60] has side portions [66, 67] that extend from the fixed contact carrier [60] and hold the contact carrier in coil pockets [47, figure 3].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the contact carrier of Schedele with side portions to hold the contact carrier in coil pockets as shown by Tsutsui in order to secure the contact carrier and fixed contacts inside the relay.

Schedele in view of Tsutsui fails to teach that the magnet system is extrusion coated with a plastic material, the coil, the yoke, the pole, and the fixed contact carrier being embedded in the plastic material.

Kern et al. teaches an electromagnetic relay wherein the magnet system is extrusion coated with a plastic material [11, 31], the coil [34], the yoke [61], the pole [62], and the fixed contact carrier being embedded in the plastic material.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to extrusion coat the magnet system Schedele in view of Tsutsui as shown by Kern et al. in order to increase the reliability of the relay by protecting the components from wear and tear by sealing them from the external environment.

Claim 2, Schedele in view of Kern et al. discloses the claimed invention except for the upper surface of the second pole leg includes a crowned pole face. It would have been obvious to one of ordinary skill in the art at the time the invention was made to alter the upper surface of the second pole leg in order to facilitate mounting the armature to that surface of the pole leg. Since applicant has not disclosed that a

crowned surface solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the arrangement shown by Schedele.

Claim 3, Schedele discloses the magnet system according to claim 1, wherein the yoke is L-shaped [left portion of multi-component yoke 25, figure 5].

Claim 4, Schedele discloses the magnet system according to claim 1, wherein the pole is L-shaped [right portion of multi-component yoke 25, figure 5].

Claim 5, Schedele in view of Kern et al. discloses the claimed invention exception of the first pole leg being connected to the core by a U-shaped recess. It would have been obvious to one of ordinary skill in the art at the time the invention was made to adjust the shape of the recess used to connect the first pole left to the core. Since applicant has not disclosed that using a U-shaped recess solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the arrangement shown by Schedele.

Claim 6, Schedele discloses the magnet system according to claim 1, wherein an edge of the armature mounting portion and an edge of the second pole leg are positioned such that a gap is formed therebetween that is bridged by the armature [figure 5].

Claim 7, Schedele discloses the magnet system according to acclaim 1, wherein the fixed contact arranged on the fixed contact carrier is substantially aligned with the second pole leg [figure 5].

Claim 8, Schedele discloses the magnet system according to claim 7, wherein the fixed contact carrier is offset in a direction of the core [figure 5].

Claim 9, Schedele discloses the magnet system according to claim 1, wherein the magnet system is mounted on a coil body [the bobbin for coil 24, figure 5].

Claim 11, Schedele discloses an electromagnetic relay [figure 5 and 6] comprising: a magnet system having a core body with a core [figure 5, center portion of multi-component yoke 25 through the coil] partially enclosed by a coil [24]; a yoke [left portion of multi-component yoke 25] having a first yoke leg [left portion of multi-component yoke 25 perpendicular to the core] attached to a first end of the core and a second yoke leg [left portion of multi-component yoke 25 above the coil 24] extending parallel to the core having an armature mounting portion [figure 5]; a pole [right portion of multi-component yoke 25] having a first pole leg [right portion of multi-component yoke 25 perpendicular to the core] connected to a second end of the core and a second pole leg [right portion of multi-component yoke 25 above the coil 24] extending parallel to the core; the magnet system having a fixed contact [29] arranged on a fixed contact carrier [31] substantially aligned with the second pole leg [figure 5], the fixed contact carrier being offset in a direction of the core and arranged in the coil body [figure 5].

Schedele shows a contact carrier [29] secured by insulating blocks [30 and 31] fails to teach exactly how the fixed contact carrier is secured to the insulating blocks.

Tsutsui discloses a magnet system for a relay [figure 3] wherein the contact carrier [60] has side portions [66, 67] that extend from the fixed contact carrier [60] to hold the contact carrier in coil pockets [47, figure 3].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the contact carrier of Schedele with side portions to hold the contact carrier in coil pockets as shown by Tsutsui in order to secure the contact carrier and fixed contacts inside the relay.

Schedele in view of Tsutsui fails to teach that the magnet system is extrusion coated with a plastic material, the coil, the yoke, the pole, and the fixed contact carrier being embedded in the plastic material.

Kern et al teaches an electromagnetic relay wherein the magnet system is extrusion coated with a plastic material [11, 31], the coil [34], the yoke [61], the pole [62], and the fixed contact carrier being embedded in the plastic material.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to extrusion coat the magnet system Schedele in view of Tsutsui as shown by Kern et al. in order to increase the reliability of the relay by protecting the components from wear and tear by sealing them from the external environment.

Claim 12, Schedele discloses the electromagnetic relay according to claim 11, wherein a sheet-like armature [26] is pivotally mounted on the armature mounting portion, the armature having a spring contact [28] with a switching contact positioned adjacent to the fixed contact [figure 5].

Claim 13, Schedele discloses the electromagnetic relay according to 11, wherein the fixed contact carrier is held by side portions in pockets of a side arm of the coil body [figure 5].

Claim 14, Schedele discloses the electromagnetic relay according to claim 13, wherein the pole is held between the side arm and a first flange of the coil body [figure 5].

Claim 15, Schedele discloses the electromagnetic relay according to claim 12, wherein a free end of the spring contact [28] is movably received between injection molded webs [figure 5].

Claim 16, Schedele discloses the electromagnetic relay according to claim 11, wherein the second pole leg has an upper surface substantially aligned with the armature mounting portion [figure 5]

Claim 17, Schedele discloses the electromagnetic relay according to claim 16, wherein an edge of the armature mounting portion and an edge of the second pole leg are positioned such that a gap is formed therebetween that is bridged by the armature [figure 5].

Claim 18, Schedele in view of Kern et al. discloses the claimed invention exception of the shape of the spring contact. It would have been obvious to one of ordinary skill in the art at the time the invention was made to adjust the shape of the spring contact in order to vary to pressure on the closed contacts in order to reduce contact welding.

Claims 19 and 20, the method for producing a magnet system for an electromagnetic relay is obvious in the product structure as disclosed in claims 1-9 and 11-18 above by Schedele in view of Kern et al.

Response to Arguments

Applicant's arguments with respect to claims 1-9 and 11-20 have been considered but are moot in view of the new ground(s) of rejection.

Claims 1, 11 and 19 stand amended to include that the contact carrier has side portions that extend from the fixed contact carrier and hold the contact carrier in coil pockets

In response, the Hendel reference is replaced by Tsutsui [US 6,337,614]. Tsutsui discloses a magnet system for a relay [figure 3] wherein the contact carrier [60] has side portions [66, 67] that extend from the fixed contact carrier [60] and hold the contact carrier in coil pockets [47, figure 3].

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., that the contact piece is held in pockets of a side arm of a coil body) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Claims 1 and 11 merely states that the "fixed contact carrier having side portions that extend from the fixed contact carrier and hold the fixed contact carrier in pockets of the coil". The claim language does not specify a location for the coil pockets as being a side arm of a coil body.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BERNARD ROJAS whose telephone number is (571)272-1998. The examiner can normally be reached on M and W-F, 10:00-7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin G. Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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